

## AMENDMENTS

Amendments to the Claims

Please amend the claims according to the following listing of the claims.

Listing of the claims

1. (Previously Presented) A method of use of an apparatus for treatment of a material,  
  
the apparatus comprising a housing,  
  
wherein in the housing a counter rotating intermeshing double extrusion screw is provided,  
  
wherein the intermeshing double extrusion screw is defined as an extrusion screw of which two approximately parallel screws have blades such that the thickness of a blade is at least half the distance between two neighboring blades,  
  
wherein the two screws fit closely in the housing such that the material undergoing the treatment has to stay between the blades of the screws,  
  
comprising the step of treating the material, wherein the treating comprises processing the material in the housing under pyrolytical conditions.
2. (Previously Presented) The method according to claim 1, wherein the extrusion screw has a hollow shaft.
3. (Previously Presented) The method according to claim 2, wherein the blade or blades on the hollow shaft are hollow.

4. (Previously Presented) The method according to claim 1, wherein the extrusion screw has a double blade over at least part of its length.
5. (Previously Presented) The method according to claim 1, wherein the extrusion screw has a blade with a variable pitch.
6. (Previously Presented) The method according to claim 1, wherein the extrusion screw has a blade with sections of alternating short pitch and long pitch.
7. (Previously Presented) The method according to claim 6, wherein the extrusion screw has a blade having one section having a short pitch, and one section having a long pitch.
8. (Previously Presented) The method according to claim 6, wherein before each section of the extrusion screw having a blade with a long pitch a kneading element is present between the shaft of the extrusion screw and the housing.
9. (Previously Presented) The method according to claim 1, wherein the housing has one or more outlets for gasses formed and/or one or more outlets for products formed.
10. (Previously Presented) The method according to claim 6, wherein the housing has one or more outlets for gasses formed and/or one or more outlets for products formed, wherein for at least each section of the extrusion screw having a blade with a long pitch an outlet for the gasses formed is present in the housing.
11. (Previously Presented) The method according to claim 1, wherein the distance between the shaft of the screw and the housing is at least of the same order as the distance between two successive blades.
12. (Previously Presented) The method according to claim 1, wherein the screw has a

shaft on which internals are provided.

13. (Previously Presented) The method according to claim 1, wherein the housing is double walled.
14. (Previously Presented) The method according to claim 1, wherein the housing and/or the extrusion screw have been made from cast iron.
15. (Previously Presented) The method according to claim 1, wherein the housing has a length between 1 and 25 meters.
16. (Previously Presented) The method according to claim 1, wherein the material is coal and the treatment is directed at making char.
17. (Previously Presented) The method according to claim 16 wherein the treatment of the coal under pyrolytical conditions takes place in three phases, a heating phase of the material, a reaction phase in which the material may become at least partially plastic and a third phase in which one or more processed products are formed,

wherein the processed products are formed in the housing while the material and the products in the housing are transported by means of the counter rotating intermeshing double extrusion screw.

18. (Previously Presented) The method according to claim 17, wherein the extrusion screw is self-cleaning during the transport of the material and the processed products.
19. (Previously Presented) The method according to claim 17 wherein the material and the processed products are kneaded during transport.

20. (Previously Presented) The method according to claim 1, wherein the extrusion screw rotates with a velocity of at most 25 rounds per minute.
21. (Previously Presented) The method according to claim 17, wherein the material and the processed products are heated to a maximum temperature of 300° C to 1000° C.
22. (Previously Presented) The method according to claim 17, wherein the transporting time of the material and the processed products in the housing is between 10 and 60 minutes.
23. (Previously Presented) The method according to claim 17, wherein the material and the processed products are treated under a pressure of 0.5 to 5 bar in the solid/liquid/gas phase.
24. (Currently Amended) The method according to claim 1, wherein the material is iron ore or metal oxide and the treatment is making steel or metal in the presence of a reducing agent.
25. (Previously Presented) The method according to claim 1, wherein the material is tar and/or oil and the treatment is making petrol, diesel fuel and/or other chemicals.
26. (Previously Presented) The method according to claim 1, wherein the material is biomass, tires or waste and the treatment is making oil and gas.
27. (Previously Presented) The method according to claim 6, wherein the extrusion screw has a blade having one section having a short pitch, one section having a long pitch, also having an end section having an end pitch.
28. (Previously Presented) The method according to claim 1, wherein the distance

between the shaft of the screw and the housing is at least of the same order as the distance between two successive blades, the distance between the shaft and the housing being larger than the distance between two successive blades.

29. (Previously Presented) The method according to claim 1, wherein the housing and/or the extrusion screw have been made from nodular cast iron.
30. (Previously Presented) The method according to claim 1, wherein the housing has a length between 8 and 15 meters.
31. (Previously Presented) The method according to claim 1, wherein the housing has a length approximately 12 meters.
32. (Previously Presented) The method according to claim 1, wherein the extrusion screw rotates with a velocity of approximately 1 round per minute.
33. (Previously Presented) The method according to claim 17, wherein the material and the processed products are heated to a maximum temperature of 400° C to 700° C.
34. (Previously Presented) The method according to claim 17, wherein the material and the processed products are heated to a maximum temperature of approximately 600° C.
35. (Previously Presented) The method according to claim 1, wherein the screw has a shaft on which internals selected from the group consisting of paddles and/or rods are provided.
36. (New) The method according to claim 1, wherein the counter rotating intermeshing double extrusion screw is orientated substantially horizontally.

37. (New) The method according to claim 17, wherein the extrusion screw has a hollow shaft, wherein the blade or blades on the hollow shaft are hollow, and wherein the counter rotating intermeshing double extrusion screw is orientated substantially horizontally.